



PRO-SPEC V SYNTHETIC BLEND ENGINE OIL



◆ **BACKWARDS COMPATIBLE DIESEL ENGINE OIL MEETING CK-4 API DESIGNATION**

Pro-Spec V Synthetic Blend Engine Oil provides superior protection against wear and oxidation compared with conventional CJ-4 oils, and also provides improved shear stability and faster air release. It is backwards compatible with CJ-4, CI-4 Plus, CI-4 and CH-4 oils. The new API CK-4 category, which Pro-Spec V Synthetic Blend meets and exceeds, marked the first heavy duty diesel category upgrade in a decade. Pro-Spec V can benefit on-road fleets and municipalities, as well as off-road industries such as mining, agriculture and construction.



◆ **EXCEPTIONAL WEAR PROTECTION FOR YOUR ENGINE**

Pro-Spec V Synthetic Blend Engine Oil provides exceptional wear protection, having surpassed the API CK-4 requirements in various categories. In the Cummins ISM engine test, Pro-Spec V provided a 4.9% improvement in crosshead weight loss over the CK-4 test requirements. Pro-Spec V affords ample cylinder liner protection for Mack engines, registering a 56% improvement over the API test limits. And, in the Detroit Diesel DD13 testing, Pro-Spec V provided five times better wear protection compared to the Detroit Diesel guidelines for cylinder liner wear protection. By providing significant wear protection, Pro-Spec V can help the engine operate at maximum efficiency and provide the best solution for wear protection.



◆ **MAXIMIZES OIL DRAIN INTERVALS**

Pro-Spec V provides superior oxidation control, even when extending drain intervals. If an oil begins to oxidize, it will begin to thicken to the point it may exceed the viscosity range parameters. But with the additive chemistry formulated into Pro-Spec V, it exceeds the oxidation control requirements of the API CK-4 limits, the Cummins 20086/20087 parameters and the Volvo VDS-4.5 specification. In fact, Volvo has indicated drain intervals can be extended by roughly 20% with Pro-Spec V since it exceeds the VDS-4.5 performance specification by almost 10%. TRC recommends utilizing the oil analysis program for maximum oil drain intervals.



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◆ THE RIGHT BALANCE FORMULATED FOR OPTIMUM VISCOSITY

A careful balance has been formulated into Pro-Spec V Synthetic Blend Engine Oil to afford the best wear protection, while improving fuel economy through a lower high temperature high shear viscosity. High temperature high shear viscosity is very important in preventing engine wear in the critical ring/liner interface area by maintaining a protective oil film between moving parts, and has also been shown to relate to fuel economy. Pro-Spec V provides the right high temperature/high shear viscosity balance. In the ASTM D7109 Shear Stability test, Pro-Spec V showed less viscosity loss compared to API CK-4 guidelines. In addition, compared to a CJ-4 15W/40 oil, the Pro-Spec V 10W/30 viscosity showed a 1% improvement in fuel economy testing in Class 8 Long Haul and a 3.5% improvement in Class 6 stop and go.

SPECIFICATIONS

Product Code # 106791 (15W/40) Product Code # 106790 (10W/30)

Meets and/or exceeds MIL-L-2104E, MIL-L-46152E, Caterpillar TO-2, Caterpillar ECF-2, Caterpillar ECF-3, Cummins CES 20081, Cummins CES 20086, Detroit Diesel Power Guard 93K214 and 93K218, Detroit Diesel DFS 93K222, Ford WSS-M2C171-F1, Mack EO-N Premium Plus, Mack EO-N Premium Plus 03, Mack EO-O Premium Plus 07, Mack EO-S-4.5, Navistar, ACEA E9/E7/E5/E3/B3/A3, MAN 3275, Mercedes Benz MB 228.31 and 229.1, MTU Type I and Type II, Volvo VDS-2, VDS-3 and VDS-4, Volvo VDS-4.5, Global DHD-1, Renault RLD-3, JASO DH-2, A.P.I. CG-4, CH-4, CI-4, CI-4 Plus, CJ-4, CK-4

		15W/40	10W/30
D-287	Specific Gravity @ 60°F	0.87	0.87
D-287	API Gravity	30.4	30.4
	Weight per Gallon	7.28 lbs./gallon	7.27 lbs./gallon
D-92	Flash Point	460°F/238°C	450°F/232°C
D-97	Pour Point, Typical	-32°F	-38°F
D-445	Viscosity @ 100°C	14.9cSt	11.8cSt
D-445	Viscosity @ 40°C	112.8cSt	80.7 cSt
D-2270	Viscosity Index	137	140
D-892	Foaming Tendency/Stability		
	Sequence I	0/0	0/0
	Sequence II	0/0	0/0
	Sequence III	0/0	0/0
	Calcium	0.24	0.24
	Zinc	0.12	0.12
	Phosphorus	0.10	0.10
	Sulfur	0.33	0.33
	Nitrogen	0.13	0.13
D-2896	Total Base Number (TBN)	10	10
D-664	Total Acid Number (TAN)	3	3
D-874	Sulfated Ash	1.0%	1.0%
D-7109	Orbahn Shear (90 Passes) Kinematic Viscosity @ 100°C	13.1cSt	10.7cSt
D-7109	Orbahn Shear (90 Passes) HTHS	3.9mPa-s	3.4mPa-s
D-5293	Cold Cranking simulator	@ -20°C 5770cP	@-25°C 6550cP
D-4684	Mini Rotor Viscometer (MRV)	19500cP @ -25°C	21400cP @ -30°C
D-4684	MRV Yield Stress	< 35 Pa	<35 Pa
D-5800	NOACK Volatility	10%	11%
D-4683	High Temperature High Shear	4.2mPa-s	3.4mPa-s
D-6594	HTCBT @ 135°C		
	Copper	6 ppm	5 ppm
	Lead	11 ppm	7 ppm
D-130	Copper Strip Rating	1A	1A

Handling Information: For safe handling of the product, read the Safety Data Sheet (SDS)

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